Evaluation of Alpine Energy 2013 Pricing Methodology

What we have been asked to do

The Electricity Authority engaged Castalia to carry out an independent evaluation of the pricing methodologies published by the 29 electricity distributors in New Zealand. This document provides our evaluation of Alpine Energy's 2013 pricing methodology[1] against:

- The **Information Disclosure Guidelines** (Table 1). The guidelines set out the information that should be provided in distributor pricing methodologies
- The **Pricing Principles** (Table 2). The principles contain economic benchmarks that should be reflected in pricing methodologies to the extent practicable.

The purpose of this review is to understand how distributors interpret the guidelines and principles, and to provide suggestions on how to improve distributor pricing methodologies. This review does not focus on ensuring compliance with the guidelines and principles.

Our understanding of Alpine Energy's methodology

The table below summarises our understanding of the methodology that Alpine Energy uses to determine prices for three consumer groups—low fixed charge, 0-15 kVA, and 45 kVA—which we understand are all mass market consumer groups. The purpose of this example is to explain our understanding of Alpine Energy's pricing methodology, using the example of one type of customers.

	Approach	Rationale
Customer categories	Categorised based on if the site is domestic, the size of the fuse, and the installed kVA	The methodology does not provide a rationale for its customer groupings
Cost allocation	Costs are allocated to customer groups based on customer numbers, group after diversity maximum demand (ADMD), and energy consumption for customers without kW metering	The methodology does not provide an explicit rationale for allocating costs, but presumably uses ADMD and consumption as proxies for contribution towards network costs
Charging basis	Tariffs have a fixed per annum component and two variable charges, one for electricity consumption during day time and one for consumption during night time	Historically, line charges were set on an arbitrary 50:50 fixed to variable ratio. For 2013/14 the forecast ratio is 59 percent variable and 41 percent fixed. No rationale is provided for determining these ratios

[1] Alpine Energy's 2013 pricing methodology is available online at: http://www.alpineenergy.co.nz/disclosures/AEL_Line_Charge_Pricing_Methodology_2013.pdf

Overview of our evaluation of Alpine Energy's methodology

The main issue arising from our evaluation is that Alpine's methodology consistently asserts compliance with the pricing principles, but does not demonstrate how this compliance is achieved. On page 3, the methodology states that it is "demonstrably consistent" with the Electricity Authority's pricing principles. However, it is not clear to us that the methodology actually demonstrates compliance.

For example, an important component of the pricing principles is that prices should signal the economic cost of service provision (principle a). Alpine's methodology does not align with this principle because there is no apparent link between prices and available service capacity or future investment costs. In our view, the principles call for a shift in thinking from pure cost recovery (which is relatively simple to achieve through pricing) to signalling the impact of network usage.

One particularly pleasing aspect of Alpine's methodology is that it provides a real measure to avoid cross-subsidies by separating consumers into high-cost and low-cost areas of service. Not all distributors apply this approach. The rationale for this approach would be even stronger if estimates were provided of the incremental costs of serving these two distinct types of customers. Without these estimates, it is not possible to determine whether cross-subsidies actually exist between the consumer groups on the Alpine network.

Table 1: Evaluation of the Pricing Methodology against the Information Disclosure Guidelines

Guideline	What is done well	What is missing
(a) Prices should be based on a well-defined, clearly explained and published methodology, with any material revisions to the methodology notified and clearly marked	▪ The pricing methodology has not changed since 2010 ▪ The methodology is published on the Alpine website ▪ The document follows a logical structure	▪ The purpose of table 2 is not clear: – When is the forecast for? – How is the information used to allocate costs and set tariffs?
(b) The pricing methodology disclosed should demonstrate: **(i)** How the methodology links to the pricing principles and any non-compliance		▪ Paragraph 3 on page 3 asserts that the methodology complies with the principles but no description is provided to illustrate this. It could be useful to include a table showing the principles in one column, and how and where in the methodology compliance is achieved in the other column ▪ Refer to our pricing principles evaluation for instances of non-compliance
(ii) The rationale for consumer groupings and the method for determining the allocation of consumers to the consumer groupings	▪ Customers are clearly grouped into categories ▪ Three factors are used to allocate customers to the consumer groups: fuse size, demand, consumption	▪ The methodology should show the high-level factors used to determine the allocation of consumers to the lower cost and high cost areas.
(iii) Quantification of key components of costs and revenues	▪ Key components of the revenue requirement are listed at an aggregate level	▪ Alpine needs to show in broad terms how the figures in section 2 were obtained, e.g. what is the depreciation rate and the value of the RAB that leads to a depreciation requirement of $5.3m? ▪ What do capital contributions amount to and how are they differentiated from general upgrade needs?
(iv) An explanation of the cost allocation methodology and the rationale for the allocation to each consumer grouping	▪ Cost allocators are identified	▪ The application (and rationale) of the cost allocators is not described: the methodology should describe how each customer group contributes to costs. This will help to explain the rationale to the allocation of costs between groups

Guideline	What is done well	What is missing
(v) An explanation of the derivation of the tariffs to be charged to each consumer group and the rationale for the tariff design	▪ Table 3 is very informative but needs to show how tariffs recover target revenue	▪ Why have tariffs historically been fixed at a 50:50 fixed and variable basis when guidelines suggest 100% fixed line charges are appropriate given highly fixed cost structures? Why is the ratio now 41:59? ▪ What 'consistency' is sought by generally adjusting tariff levels evenly across all customer groups and what does this mean (last sentence of section 4)? ▪ What are the fixed to variable proportions for TOU customers?
(vi) Pricing arrangements that will be used to share the value of any deferral of investment in distribution and transmission assets, with the investors in alternatives such as distributed generation or load management, where alternatives are practicable and where network economics warrant.	▪ The methodology clearly states that retailers pay distributed generators for their energy, rather than Alpine Energy.	▪ The methodology states that retailers typically pay for the electricity they import from distributed generators. This raises the question of who pays distributed generators for ACOT. ▪ The methodology should specify the ways in which Alpine Energy encourages (i) distributed generators to sell surplus energy into the network, and (ii) investment in other alternatives.
(c) The pricing methodology should: **(i)** Employ industry standard terminology, where possible	▪ Industry standard terminology is used throughout	
(ii) Where a change to the previous pricing methodology is implemented, describe the impact on consumer classes and the transition arrangements implemented to introduce the new methodology.	▪ There have been no changes to the pricing methodology since 2010.	

Key to Assessment	Does not follow guidelines	Partially follows guidelines	Follows guidelines

Table 2: Evaluation of the Pricing Methodology against the Pricing Principles

Pricing principles	What is done well	What is missing
(a) Prices are to signal the economic costs of service provision by: **(i)** being subsidy free (equal to or greater than incremental costs, and less than or equal to standalone costs), except where subsidies arise from compliance with legislation and/or other regulation	▪ The division between high cost and low cost areas is a good attempt of avoiding cross-subsidies	▪ No estimates of the incremental cost of serving high cost customers are provided to show that no cross-subsidy exists ▪ No approach is described to defining and calculating incremental and standalone costs. ▪ It is not possible to see whether cases of cross-subsidy exist. The methodology should provide a comparison of the tariffs charged to customer groups and the estimates of incremental costs for each group to identify if the tariffs are subsidy free.
(ii) having regard, to the extent practicable, to the level of available service capacity		▪ How do prices (in table 3) reflect each customer group's contribution to total forecast ADMD shown on table 2? ▪ The methodology should provide an idea of available service capacity for each consumer group, and the relationship between prices and the available service capacity
(iii) signalling, to the extent practicable, the impact of additional usage on future investment costs	▪ Customers that require new or upgraded power supply are charged capital contributions in addition to the lines charge revenues	▪ It would be good to see: – When the forecast for ADMD (table 2) would lead to investment, and how this is reflected in prices – A forecast of growth in demand beyond the year 2014 that may require new investment – An analysis of peak demand by consumer groups and network locations (high cost/low cost locations)
(b) Where prices based on 'efficient' incremental costs would under-recover allowed revenues, the shortfall should be made up by setting prices in a manner that has regard to consumers' demand responsiveness, to the extent practicable		▪ From the methodology it is not obvious if this pricing principle applies. The methodology should explain how it has attempted to gage demand responsiveness of different consumers
(c) Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to:		▪ No description is provided of when uneconomic bypass might occur, and how it would be mitigated through prices. For example, the three new customers under Major New Investments on table 2 have a forecast

Pricing principles	What is done well	What is missing
(i) discourage uneconomic bypass		ADMD of 25.1 MW. But have potential risks of uneconomic bypass been taken into account here, and how have they been mitigated? ▪ To illustrate that prices are not encouraging uneconomic bypass the methodology should demonstrate that prices are no more than recovering costs of supplying a customer group at a particular network location. We would expect to see the cost breakdown of customer groups by location, and the formulas of allocating that cost to the prices. Alpine does provide a framework for allocating costs, but does not show how these allocators are used to obtain line charges.
(ii) allow for negotiation to better reflect the economic value of services and enable stakeholders to make price/quality trade-offs or non-standard arrangements for services	▪ A mass market customer survey was carried out in November 2012 allowing customers to express their views on price-quality trade-offs. ▪ A convincing description is provided of the distributors approach to non-standard arrangements, with detail of the number and size of these connections given.	▪ It would be useful to know what constitutes a "significant load profile," that is not suited to standard customer load groups. ▪ What implications do the negotiations of the three new contracts (which would be expected for the Major New Investments presented on table 2) have on the other customers of the network?
(iii) where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives and technology innovation		▪ The methodology should detail how encouragement is provided by Alpine for distributed generators to convey electricity through the network (last paragraph of page 3 and third paragraph of page 4). What encouragement does Alpine offer in particular, for example is ACOT paid out? ▪ Does Alpine Energy offer any policies or services to help customers develop alternatives to transmission and distribution? ▪ How do prices encourage investment in transmission and distribution technology?
(d) Development of prices should be transparent, promote price stability and certainty for stakeholders, and changes to prices should have regard to the impact to stakeholders	▪ Alpine has maintained stability in pricing methodology since 2010	▪ It would be useful to show how the results of the customer survey are reflected in the pricing design ▪ To the extent possible, it would be good to foreshadow the expected changes to the pricing strategy needed to align with the new regulatory framework under the Commerce Act

Pricing principles	What is done well	What is missing
(e) Development of prices should have regard to the impact of transaction costs on retailers, consumers and other stakeholders and should be economically equivalent across retailers		▪ The methodology should provide a description of the most relevant transaction costs, and how economical equivalence has been considered across retailers ▪ Does the methodology align with that of larger distributors nearby in order to reduce the costs to retailers of operating across contiguous markets?

Key to Assessment	Does not align with principles	Partially aligns with principles	Aligns with principles